BASTERIA, 66: 101-105, 2002

Vepricardium vidali spec. nov. (Bivalvia, Cardiidae), from southern Arabia, Oman and Yemen

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Vepricardium vidali spec. nov. is described from the Indo-West Pacific.

Keywords: Cardiidae, *Vepricardium*, new species, Oman, Yemen, Indian Ocean

INTRODUCTION

In the past twenty-five years the number of species attributed to the Indo-West Pacific genus *Vepricardium* Iredale, 1929, has gradually increased. Whereas Lambiotte (1979) counted only four species, Voskuil & Onverwagt (1988), in their review of the genus, recognised five, including their newly described *V. rubrohamatum*. Lee (1989), in an overview of the then known taxa, recognised six species (his unidentified one is *V. rubrohamatum*). Vidal (2000) counted eight valid taxa, including *V. albohamatum* Hylleberg & Vidal, 2000. Here we describe another new species, bringing the total number of Recent *Vepricardium* species up to nine.

Abbreviations, for collections: MNHN, Muséum national d'Histoire naturelle, Paris, France; NMW, National Museum of Wales, Cardiff, United Kingdom; TP, J.J. ter Poorten colln, Hilversum, the Netherlands; ZMA, Zoological Museum, University of Amsterdam, Amsterdam, the Netherlands. For shell characters: H, height; L, length; W, width.

SYSTEMATIC PART

Cardiidae Lamarck, 1809

Cardiinae Lamarck, 1809

Vepricardium Iredale, 1929. Type species [by original designation]: *Vepricardium pulchricostatum* Iredale, 1929 [= *V. multispinosum* (Sowerby II, 1838)].

Vepricardium vidali spec. nov. (figs 1-5)

Bucardium coronatum (Spengler, 1799); Oliver, in Dance, 1995: 244, fig. 1076.

Material. – Holotype (right valve: ZMA 4.02.010), Yemen, al-Mahrah, Wadi Masilah, 10 km W of wadi, 15°08'27"N 50°59'36"E, on the beach (Tibia-II Expedition, H. Dekker & F.G. de Ceuninck van Capelle leg., 11.x.1995). Paratype 1 (right valve: MNHN, coll. Vidal), Oman, Salalah, Raysut Power Station, on the beach. Paratype 2 (left valve [figured by Oliver, 1995: fig. 1076]: NMW Z.1991.102.34), Oman, Seeb., 23°41'N 58°11'E (Donald T. Bosch leg.).

Description. – Shell relatively large, slightly longer than high, inflated, nearly equilateral and rather solid. Umbos prominent, strongly prosogyrate; margins rounded, posterior and ventral margins deeply crenulated.

With 35-42 radial ribs, smooth and very flattened, bipartite on posterior quarter; all ribs ornamented along the posterior flank with an erect, calcareous and slightly waving fringe, best preserved towards the margins. Anteriormost and posteriormost ribs of approximate the same width as interstices, median ribs 2-3 times broader. Interstices with narrowly spaced microscopic growth-striae. Lunule medium, smooth, not elevated; lunular heart weakly defined; escutcheon prominent. Adductor scars relatively small, located just ventrally of the lateral teeth.

Hinge rather strong and broad, hinge-line weakly arched. Left valve: anterior cardinal erect and pointed, with a ridge in the middle. Posterior cardinal, broken off in the only available left valve, probably only weakly developed. Anterior lateral pronounced, wedge-shaped; posterior lateral only moderately prominent. Both with ventrally an impression of the right valve lateral. Right valve: cardinals equal, erect and pointed, joined by a high saddle. Ventral anterior and posterior laterals pronounced, wedge-shaped; dorsal anterior and posterior laterals poorly developed. Ventral and dorsal laterals separated by a deep, broad groove. Laterals approximately equidistant from cardinals.

Shell pale cream externally, posterior margin and interstices bright orange, umbo pink. Internally white with yellow-orange posterior margin and purple area below ligament.

Periostracal frills are not observed, presumably due to inadequate preservation of the material.

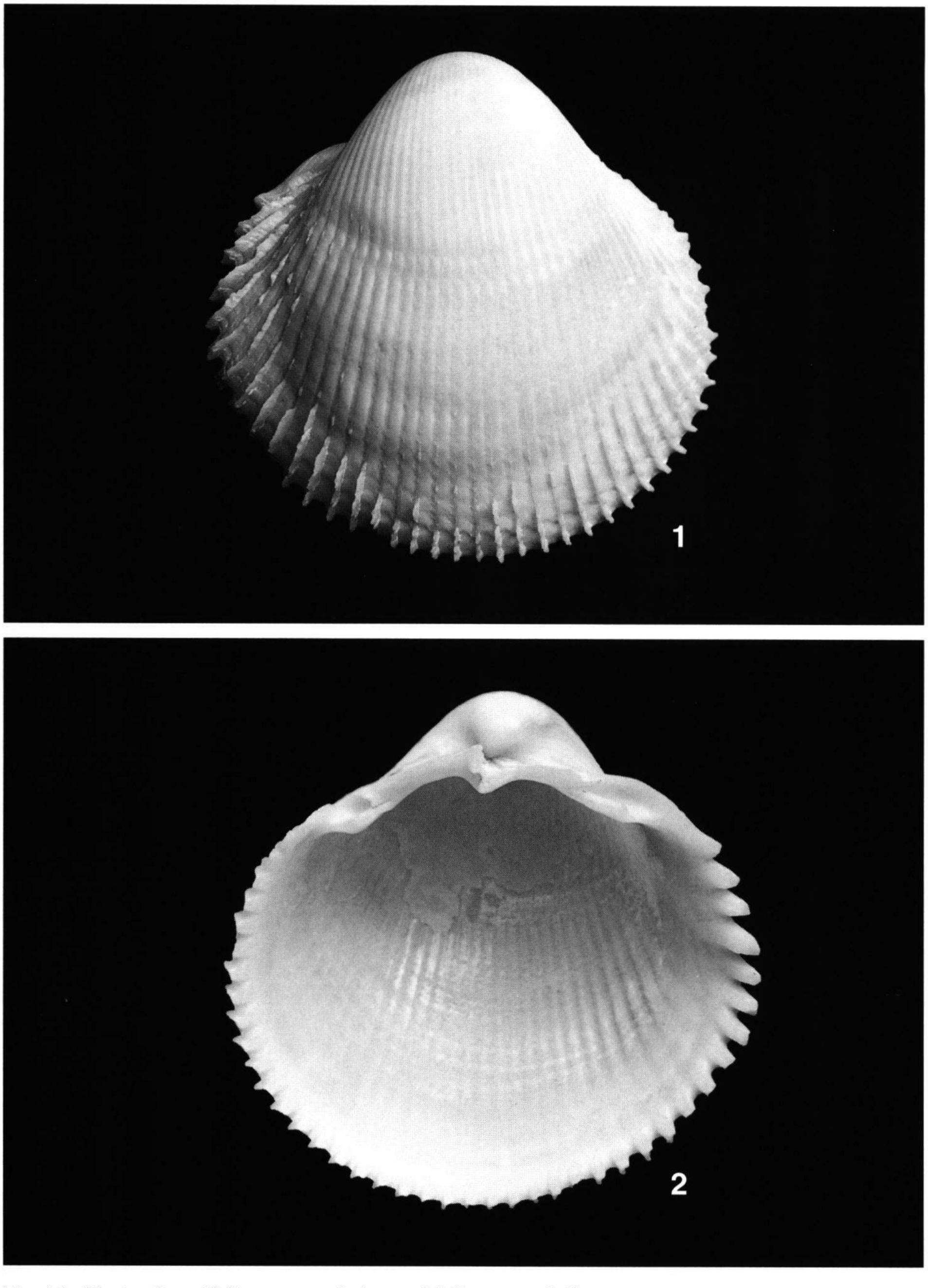
Measurements. – Holotype: H, 53.2 mm, L, 53.8 mm, W, 23.8 mm; 42 ribs. Paratype 1: H, 54.0 mm, L, 55.1 mm, W, 23.5 mm; 35 ribs. Paratype 2: H, 54.3 mm, L, 55.1 mm, W, 25.9 mm; 37 ribs.

Distribution. – Only known from the southern Arabian Peninsula, from SE Yemen to the Gulf of Oman.

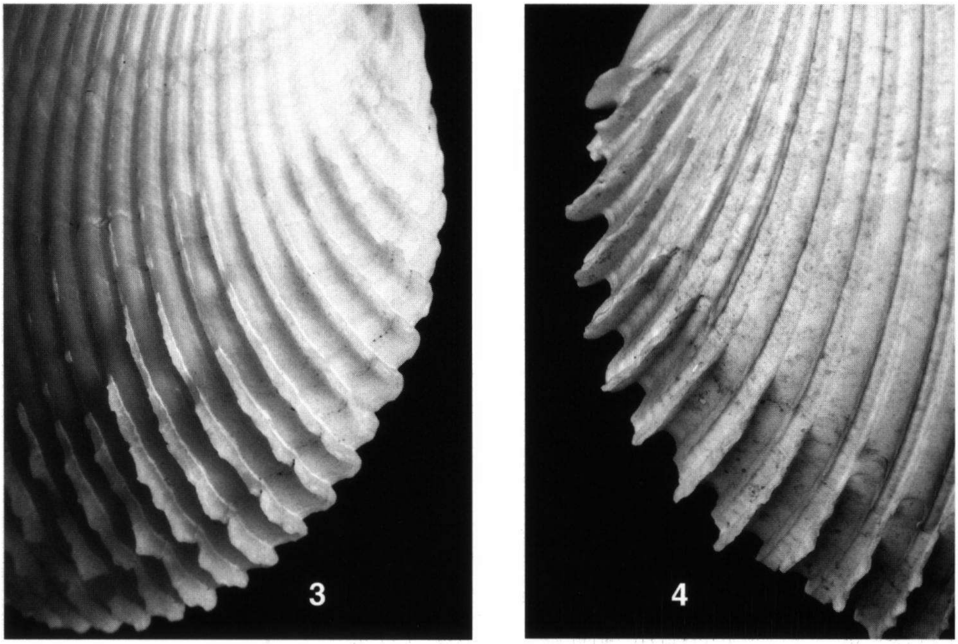
Remarks. – The pattern of microscopic pustules, a characteristic feature on all congeneric species, even on beach worn material, is absent. The typical fringe, placed on all ribs, recalls the rib sculpture in the related fossil genera *Europicardium* Popov, 1977, and *Orthocardium* Tremlett, 1950. However, both genera are different in hinge characteristics and outline.

The fact that this large species has remained unknown to date, suggests a restricted and probably subtidal distribution. This distribution might be influenced by the presence of cold water upwelling during the south-west monsoon along southern Arabia.

A specimen from Aden, figured by Oliver (1992: pl. 22 fig. 12) as *Bucardium* sp., was not available for study; it could belong to the new species here described.



Figs 1-2. *Vepricardium vidali* spec. nov., holotype (ZMA 4.02.010), Yemen, al-Mahrah, Wadi Masilah, on the beach; H 53.2 mm. 1-2, right valve, outside and inside, respectively.



Figs 3-4. *Vepricardium vidali* spec. nov., holotype (ZMA 4.02.010), right valve, Yemen, al-Mahrah, Wadi Masilah, on the beach; H. 53.2 mm. 3, detail of antero-ventral margin; 4, detail of postero-ventral margin.

Comparisons. — Shells of the following three *Vepricardium* species are most similar to those of *V. vidali* spec. nov.:

V. coronatum (Schröter, 1786), differing by its smaller size, its more tapered posterior side and the lack of rib ornamentation on the first 6-10 anterior ribs (fig. 6);

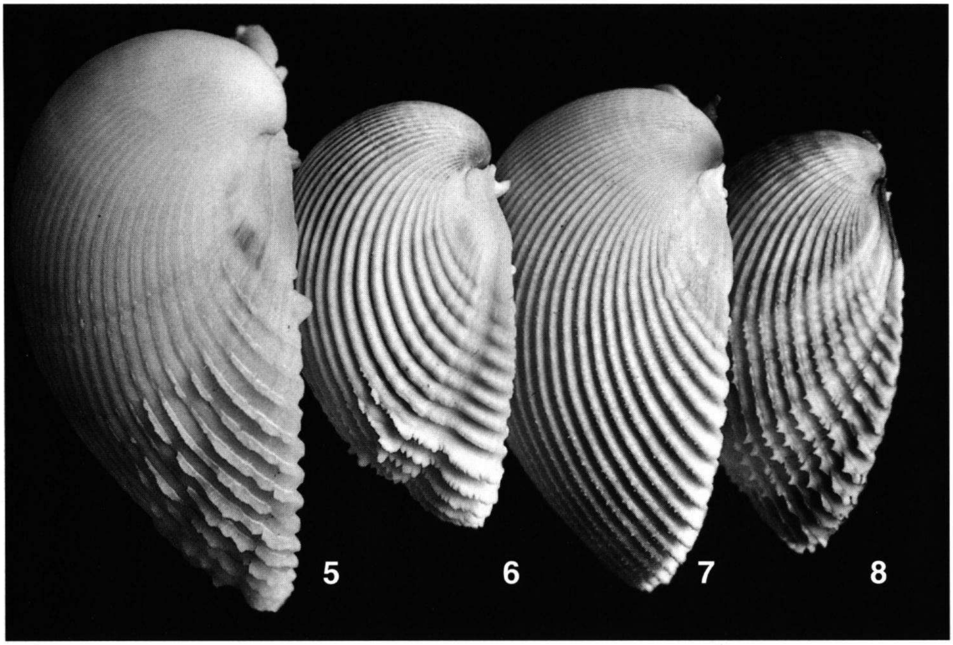
V. asiaticum (Bruguière, 1792), differing by the thinner shell, the 'hollowed structure' of the rib impressions on the shell interior and the lack of the calcareous fringe on the ribs of the anterior half of the shell (fig. 7);

V. burnupi (Sowerby III, 1897), differing by its rib ornamentation, which consists of transversely placed scales, which only posteriorly begin to form a calcareous fringe, its smaller size and the lower number of ribs (fig. 8).

Etymology. — Named after Mr. Jacques Vidal, in honour of his elaborate contributions to a better knowledge of Cardiidae taxonomy.

ACKNOWLEDGEMENTS

We are grateful to Mr. Jacques Vidal (MNHN) for making available paratype 1 and to Mrs. Harriet Wood (NMW) for sending paratype 2 for study.



Figs 5-8. Postero-dorsal view of right valves of *Vepricardium* species. 5, *V. vidali* spec. nov., holotype; 6, *V. coronatum* (Schröter, 1786), India, Madras, dredged (TP 829), H 38.3 mm; 7, *V. asiaticum* (Bruguière, 1789), Sri Lanka, Matara, offshore (TP 431), H 47.5 mm; 8, *V. burnupi* (Sowerby III, 1897), Mozambique, Lourenço-Marques, trawled, depth 50 m (TP 342), H 37.8 mm.

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